Notes on Coleoptera with Descriptions of New Species (Buprestidae and Cerambycidae).

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Chrysobothris kelloggi, n. sp.

♂—Robust, depressed; dark purple above, beneath cupreous, shining.

Head convex, occiput longitudinally carinate; front flat, a small callosity on each side; surface coarsely punctate, becoming rugose below, clothed with recumbent pubescence; eyes narrow, about evenly rounded above and below; epistoma broadly, deeply emarginate; antennae extending to middle of pronotum when laid along side margin, joints compact, not diminishing in width toward tips, third joint one and one-half times length of fourth.

Pronotum about twice as wide as long, flat; anterior margin slightly sinuate, middle lobe not prominent; basal margin emarginate at middle of each elytron, median lobe acutely rounded; surface with a wide, sparsely punctured, smooth central area extending over half of pronotum, punctures confluent at sides, a well marked lateral depression each side near front, two slight depressions on each side of median line, one at middle and one at base. Scutellum small, triangular.

Elytra wider than pronotum at base; sides subparallel at base, constricted back of humeral angles then broadly, arcuately rounded to separately rounded apices; disk flat, irregularly confluently punctured, each elyton with a well defined costa parallel to suture, also three, irregular, transverse chitinized areas.

Abdomen beneath coarsely punctate, sparsely pubescent; first and second segments channeled; last ventral finely serrate, without marginal ridge, deeply arcuately emarginate at apex. Prosternum not lobed in front, surface punctate, densely pubescent; prosternal process expanded behind coxal cavities. Anterior femora with a large obtuse tooth on inner margin, outer edge of tooth and femur serrate. Anterior and middle tibiae arcuate, posterior tibiae straight; anterior tibia with an obtuse tooth one-fourth from apex.

Length 7 mm.; width 3.5 mm.

Described from a unique male collected at Silver City, New Mexico, on January 28, 1934, by R. T. Kellogg. Holotype in writer's collection.

According to Horn's [2] key, this species would come in group III, near *C. speculifera* Horn. However the tooth on the anterior tibia is broader and farther from the tip than it is in *C. speculifera* Horn. It can be separated from its near relatives by its broad depressed form.

Chrysobothris chiricahuae, n. sp.

Size and form of *C. floricola* Gory, depressed; dark bronze head, pronotum and ventral surface more shining than elytra.

♂—Head convex, occiput longitudinally carinate; front with a small callosity on each side in middle; surface densely, irregularly punctate, clothed with long white pubescence; eyes narrow, equally rounded above and below; epistoma deeply emarginate in front; antennae extending to middle of pronotum, when laid along side margin, joints not narrowed toward apex, compact, third joint only slightly longer than fourth.

Pronotum twice as wide as long, widest back of middle, narrower in front than at base; sides rounded in front, parallel at middle, obliquely rounded at base; anterior margin with median lobe only slightly produced, broadly rounded; basal margin broadly, arcuately emarginate at middle of each elytron, median lobe acutely rounded; surface densely, coarsely punctate, punctures confluent in middle and along sides, slight indication of median depression, a strong lateral depression on each side in front, a small callosity on each side at base. Scutellum small, triangular.

Elytra much wider than pronotum; sides broadly rounded in front, sinuate back of humeral angles, then arcuately narrowed to rounded tips, serrulate; disk with two well marked basal depressions on each side at base, each elytron with an irregular, transverse depression in front of middle, back of middle and two on apical third, depressions densely punctate, three irregular costae on each elytron, the one along suture extending from basal third to tip, the other two irregular and interrupted by depressions; surface irregularly punctate.

Abdomen beneath coarsely punctured, ventral segments channeled in the middle, last ventral serrate along lateral margin, submarginal ridge lacking, deeply arcuately emarginate at apex. Prosternum with a broadly rounded lobe in front; surface densely punctate on all but median line, clothed with long white pubescence; prosternal process expanded behind coxal cavities. Anterior femora with a large obtuse tooth on inner

[2] G. H. Horn, Trans. Amer. Ent. Soc. 13, p. 65, 1886.

margin which is serrate on outer edge. Anterior and middle tibiae arcuate, each bearing a tooth one-third from apex, tooth of anterior tibia broadly rounded, tooth on middle tibia obtuse, hind tibia straight.

Length 11 mm.; width 4.5 mm.

♀—Differs from the male by being more robust, last abdominal segment not as deeply and broadly emarginate at apex, anterior and middle tibiae unmodified, front not as pubescent.

Holotype male labeled Chiricahua Mountains, ARIZONA, June 23, 1933, F. H. Parker collector. *Allotype* female from the same locality collected by the writer on June 2, 1935. The female was taken on pine slash at an elevation of about 8000 feet, which leads me to believe that the insect breeds in pine. Type material in author's collection.

According to Horn's[2] key, this species would fall in group III, near *C. speculifera* Horn. It can be separated from the closely related species by the size and the fact that the anterior and middle tibiae are both dentate.

CHRYSOBOTHRIS ACUTIPENNIS Chev. Adults were reared from dead branches of *Acacia felicioides* Car. collected at Brownsville, TEXAS. The larvae work beneath the bark and enter the sapwood for pupation.

Agrilus osburni, n. sp.

Size and form of *A. juglandis* Knull; head, antennae, sides of pronotum and legs green, elytra piceous, rest of insect dark bronze with an aeneous reflection.

Head convex, faint indication of a median depression; surface granulose in part, becoming rugose on occiput, lower half clothed with recumbent white pubescence; antennae reaching to basal fourth of pronotum when laid along lateral margin, serrate from the fourth joint.

Pronotum wider than long, base and apex of about equal width, widest in middle; sides broadly rounded in front then narrowed to base; when viewed from the side the marginal and submarginal carinae are separated in front and united very near the base; anterior margin sinuate, with broad median lobe; base bisinuate, median lobe emarginate in front of scutellum; disk convex, with two broad indistinct median depressions, lateral depressions deep, prehumeral carinae prominent; surface transversely rugose. Scutellum transversely carinate.

Elytra at base wider than base of pronotum; sides parallel

near base, constricted in front of middle, then broadly rounded on apical half to rounded apices, serrulate near tips; disk convex, sutural margins elevated posteriorly, basal depressions deep; surface imbricate-punctate.

Abdomen beneath densely punctate; first and second segments channeled at middle but not conspicuously pubescent; suture between first two segments well defined, but obliterated at side margins. Median line of ventral pubescence lacking. Prosternal lobe broadly rounded in front, feebly emarginate at middle. Posterior tarsi shorter than tibiae. Tibiae slender, all three pairs armed with a distinct tooth on inner margin at apex. Tarsal claws similar on all feet, cleft near the middle, the outer tooth acute, the inner one broad and turned inward, the tips nearly touching.

Length 5 mm.; width 1.2 mm.

Described from two male specimens collected by the writer at Put-in-Bay, Ohio, July 7, 1935. Holotype and paratype in writer's collection. I take pleasure in naming this beetle after Dr. R. C. Osburn.

This species would come next to *A. juglandis* Knull according to Fisher's[3] key; however, the median depression on the first two ventral segments of the abdomen will distinguish it. The male genitalia are unlike any of those figured by Fisher. In general outline they resemble those of *A. atricornis* Fishr. with the addition of translucent appendages at the ends of the lateral lobes.

Agrilus santaritae, n. sp.

♂—Narrow, elongate; head, pronotum and ventral surface greenish bronze, elytra dark bronze.

Head with a broad deep depression extending from vertex to epistoma; surface irregularly rugose; eyes large, more broadly rounded beneath, than above; antennae short, extending to middle of pronotum when laid along side margin, serrate from the fourth joint, outer joints wider than long.

Pronotum slightly wider than long, width of base and apex about equal; sides arcuately expanded to back of middle, sinuate at base; when viewed from the side, marginal carina slightly sinuate, submarginal carina inferior in front, the two carinae joined back of middle; anterior margin feebly sinuate, median lobe broadly rounded; basal margin slightly emarginate at

[3] W. S. Fisher, U. S. Nat. Mus. Bul. 145, pp. 1-347, 1928.

middle of each elytron; disk convex, with two shallow median depressions, a broad lateral depression on each side along side margin, prehumeral carinae well indicated, oblique; surface coarsely, transversely rugose, punctate between rugae, a dense patch of recumbent white pubescence in each lateral depression. Scutellum transversely carinate, granulate.

Elytra as wide as widest part of pronotum; sides broadly arcuate at base, strongly constricted in front of middle, expanded back of middle, tips narrowly rounded, serrulate; disk flattened, sutural margin elevated posteriorly, basal depressions deep; surface irregularly granulose, pubescence very short, inconspicuous.

Abdomen beneath transversely rugose; first and second ventral segments convex, unmodified, suture between first two ventrals plainly indicated at sides; pubescence of middle portion very short; sides of meso- and metasternum, posterior coxal plates and ventral portions of abdominal segments clothed with dense patches of recumbent white pubescence. Prosternal lobe broadly rounded in front; prosternal process with sides parallel, not expanded back of coxae, acute at apex.

Posterior tarsi longer than the tibiae; tibiae slender, acute, anterior and middle pairs mucronate on inner side at apex; tarsal claws dissimilar, anterior pair cleft near tips, teeth of about equal length, posterior and middle pairs cleft near the middle, inner tooth much broader and shorter than the outer one, tips slightly turned inward.

Length 7.8 mm.; width 1.5 mm.

Described from two male specimens collected in the Santa Rita Mountains, Arizona, on August 12, 1935, by F. H. Parker. Holotype and paratype in writer's collection.

According to Fisher's [3] key, this species runs to *A. inhabilis* Kerr. The more narrow constricted form of this beetle, together with the shape of the front margin of the prosternum and length of posterior tarsi will serve to separate the two species.

The genitalia are approximately the same as those figured by Fisher[3] for *A restrictus* Water, however, the sides near the apex are serrulate.

Mr. E. T. Cresson, Jr. kindly compared the species with the lectotype of *A. inhabilis* Kerr in the Academy of Natural Sciences and informs me that the two are not conspecific.

AGRILUS SUBTROPICUS Schffr. Adults were taken on the foliage of black persimmon (*Bryodendron texanum* Sch.) at Brownsville, TEXAS, from May 16 to 19. The number taken on widely separated trees would indicate that this might be the host of the species.

AGRILUS PARKERI Knull. Adults reared from black oak, (*Quercus* sp.) slash collected by the writer in Miller Canyon, Huachuca Mountains, ARIZONA. L

TRIGONOGYA RETICULATICOLLIS Schffr. Adults were taken from the foliage of swamp ash (*Fraxinus caroliniana* Mill.) at Brownsville, TEXAS, from May 12 to 19. The species probably breeds in the small branches of this tree.

CERAMBYCIDAE.

ZAMODES OBSCURUS Lec. Mr. A. B. Champlain presented me with a specimen of this rare beetle which emerged from a natural finished hickory table at Glenside, PENNSYLVANIA, on June 19, 1934. The table had been in use two years before the adults started to emerge. No doubt oviposition occurred before the furniture was built.

CHION CINCTUS var. OCHRACEUS Bates. Adults were chopped from their pupal cells in a dead ironwood (*Ostrya virginiana* K. Koch) at Hot Springs, ARKANSAS, on June 20, 1934.

Obrium glabrum, n. sp.

Brunneous above and below, glabrous, each elytron marked with dark brown stripes as follows: an oblique band on apical third running from side margin toward suture, a wider transverse band back of middle and a transverse band near tip.

Head densely punctate; eyes large, deeply emarginate; antennae reaching to end of elytra, scape stout, second joint as long as wide, joints three to seven inclusive, gradually increasing in length, joints eight to eleven inclusive, gradually decreasing in length.

Pronotum as broad as long, much wider in front than at base; each side with an obtusely rounded tubercle at middle, strongly constricted at base; disk convex, a transverse depression at base running around sides; surface minutely sparsely punctate, a long brunneous, ciliate hair arising from each puncture. Scutellum triangular.

Elytra at base wider than the widest part of pronotum; sides constricted back of humerus, broadly rounded in apical

half to rounded apices, disk convex, punctures large, sparse, irregularly placed, a long brunneous, ciliate hair arising from each puncture.

Ventral portion of abdomen glabrous, second segment deeply emarginate, apical margin clothed with a dense fringe of brunneous hairs, third segment emarginate, fourth and fifth concave. Legs sparsely pubescent, femora clavate.

Length 4.3 mm.; width 1.3 mm.

Described from a unique female in the Wenzel collection, Ohio State University, labeled Davis Mountains, TEXAS, July 10, H. A. Wenzel, collector.

This species is close to *O. constricticolle* Schffr. However, it can be distinguished by the arrangement of the punctures and markings on the elytra. Mr. W. S. Fisher has kindly compared the specimen with the type of *O. constricticolle* Schffr.

LEPTOSTYLUS BIUSTUS Lec. Adults reared from small branches of dead hackberry (*Celtis mississippiensis* Bosc.) collected at New Orleans, LOUISIANA.

LEPTOSTYLUS KNULLI Fishr. Found breeding in pine slash at Hot Springs, ARKANSAS.

LOCHMAEOCLES TESSELLATUS Thoms. This species breeds in dead trunks and branches of hackberry (*Celtis*) and *Acacia felicioides* Carr. at Brownsville, TEXAS. The larvae work beneath the bark and frequently enter the sapwood for pupation. The pupal cells are very roughly constructed and when the loose bark is removed most of the cells are exposed. The adults mature the latter part of May.

HEMIERANA MARGINATA Fab. Found breeding in ironweed (*Vernonia* sp.) in Gillespie Co., TEXAS. Adults were present the latter part of May and they have the same girdling habit in egg-laying as the genus *Oberea*.

Obituary.

We deeply regret to announce the deaths of two prominent entomologists:

Prof. CYRUS R. CROSBY, of Cornell University, died at Ithaca, New York, January 11, 1937, of a heart attack.

Dr. ROBIN J. TILLYARD was killed in an automobile accident, on January 13, 1937, according to a despatch from Sydney, Australia, published in the daily papers.